UNITED STATES PATENT AND TRADEMARK OFFICE

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10/735,711	12/16/2003	Takeharu Tone	246648US2	3460

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NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/735,711	TONE, TAKEHARU
	Examiner	Art Unit	
	Quang N. Vo	2625	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *16 December 2003*.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-44* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-44* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *12/16/03;08/02/04*.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Yanaka

(USPN 6,115,138).

With regard to claim 1, Yanaka discloses a data processing apparatus,

comprising: a data memory configured to store characteristic definition data (column 2,

lines 11-13) defined for at least one data attribute (column 2, lines 9-14); a plurality of

processing elements (column 2, lines 24, 31, 34, 38, 42, 45, 50) each configured to

select a set of characteristic definition data from said characteristic definition data from

a data stream to be processed and to process data from said data stream according to

said set of characteristic definition data (column 2, 24-30); and a process control

apparatus (image processing portion, column 2, line 24)configured to control at least

one of: storing process control data for controlling said plurality of processing elements,

imparting an operation instruction (e.g. masking data process, column 2, line 35) set

based on said process control data to each of said plurality of processing elements in

common (there are more than one data to be masked), imparting said data stream to

each of said plurality of processing elements, sending out (reading and writing data,

column 2, lines 21-23) said characteristic definition data stored in said data memory to

each of said plurality of processing elements, and outputting processed data from each of said plurality of processing elements (column 2, lines 24-55).

With regard to claim 2, Yanaka discloses wherein said process control apparatus includes: a global register (column 2, lines 21- 23) configured to store and to impart said process control data to each of said plurality of processing elements in common, and a processor configured to control at least one of: writing said process control data into said global register, imparting said data stream to each of said plurality of processing elements, sending out said characteristic definition data stored in said data memory to each of said plurality of processing elements, imparting an operation instruction set based on said process control data to each of said plurality of processing elements in common, and outputting processed data from each of said plurality of processing elements (column 2, lines 50-55).

With regard to claim 3, Yanaka discloses further comprising: a program memory configured to store a process program set for said processor to perform said control (column 2, lines 50-55).

With regard to claim 4, Yanaka discloses wherein each of said plurality of processing elements includes: an input data register (column 2, 21- 23) configured to store data to be processed (column 2, lines 21-23); a plurality of character registers each configured to store said characteristic definition data (column 2, lines 25-30); an output data register configured to store processed data acquired by processing (column 9, lines 22-31); an attribute register configured to store attribute data for said data to be processed (column 9, lines 8-17); and a calculator (column 10, lines 42-45) configured

to select characteristic definition data to be stored in said character registers, said characteristic definition data being assigned to attribute data stored in said character registers among characteristic definition data corresponding to given attribute data, and to process said data to be processed according to an operation instruction set imparted by said processor based on said process control data and characteristic definition data stored in said character registers (column 10, lines 31-45).

With regard to claim 5, Yanaka discloses wherein said processor is further configured to control at least one of: writing a data stream to be processed into said input data register included in each of said plurality of processing elements, sending out said characteristic definition data stored in said data memory corresponding to each attribute data to said character registers, writing said process control data into said global register, and outputting processed data from said output data register (column 10, lines 31-53).

With regard to claim 6, Yanaka discloses wherein said processor is configured to control at least one of: sending out sequentially characteristic definition data corresponding to each attribute data from said data memory to said character registers based on said data written into said input data register, imparting an operation instruction set to said calculator based on said process control data, and outputting conversion processed data written into said output register by said calculator; and said calculator is configured, when said processor is sending out characteristic definition data corresponding to attribute data stored in said attribute register from said data memory, to load said characteristic definition data into said character registers, and to

perform image data processing according to said operation instruction set using said characteristic definition data loaded in said character registers (column 10, lines 31-53).

With regard to claim 7, Yanaka discloses wherein: said characteristic definition data include input data obtained at a position in a divided segment, said divided segment being formed by dividing a data input range into multiple segments, into processed data obtained by processing said input data, and into process parameters for each of said multiple segments (column 10, lines 31-45); said processor is further configured, when sending out characteristic definition data corresponding to said each attribute data, to control sending out: segmented position input image data assigned to said attribute data, processed data obtained by processing said segmented position input image data, and process parameters, sequentially in an order of said divided segment to said character registers from said data memory (column 2, lines 15-23 and lines 50-55); and said calculator is configured, when said processor is sending out characteristic definition data, to: load said segmented position input image data assigned to a segment corresponding to said data written into said input data register among said characteristic definition data corresponding to attribute data stored in said attribute register, processed data obtained by processing said segmented position input image data, and process parameters into said character registers, and perform data processing according to said operation instruction set on said data written into said input data register using said segmented position input image stored in said character registers, said processed data obtained by processing said segmented position input image data and said process parameters (column 10, lines 31-45).

With regard to claim 8, Yanaka discloses wherein: said data to be processed include image data, said global register is further configured to store attribute detection control data used for controlling data processing for generating attribute data of said image data by said plurality of processing elements, and to impart an operation instruction set in common to said plurality of processing elements, and said calculator is configured to generate and to subsequently store in said attribute register attribute data of said image data according to said operation instruction set, image data stored in said input data register, and image data assigned to picture elements in a vicinity of noteworthy image data (column 10, lines 31-53).

With regard to claim 9, Yanaka discloses a data processing apparatus, comprising: a data memory configured to store characteristic definition data(column 2, lines 11-13) for defining characteristics of data processing for attribute data (column 2, lines 9-14); a global register configured to store a conversion program set (column 2, lines 50-55); a processor array comprising a plurality of processing elements, each of said plurality of processing elements including: an input data register (column 2, 21- 23) configured to store data to be conversion processed (column 2, lines 21-23), a plurality of character registers each configured to store conversion characteristic definition data (column 2, lines 25-30), an attribute register configured to store attribute data for said data to be conversion processed (column 9, lines 8-17), an output data register configured to store processed data acquired by conversion processing (column 9, lines 22-31), and a calculator (column 10, lines 42-45) configured to select a set of conversion characteristic definition data for subsequent storage in said character

registers, said conversion characteristic definition data being assigned to attribute data

stored in said character registers among conversion characteristic definition data

corresponding to attribute data stored in said character registers, and to perform

conversion processing on said data to be conversion processed according to a

conversion operation instruction set based on said conversion control program and

according to conversion characteristic definition data stored in said character registers

(column 10, lines 31-45); a global processor configured to control at least one of: writing

a data stream to be conversion processed into said input data register included in each

of said plurality of processing elements, sending out said conversion characteristic

definition data to said character registers, imparting an operation instruction set based

on said conversion process control program to each calculator (column 10, lines 42-45)

in said plurality of processing elements in common, and outputting processed data from

each of output registers; and a program memory configured to store a process program

set for said global processor to perform said control (column 10, lines 31-53).

    With regard to claim 10, Yanaka discloses an image data processing apparatus,

comprising: a data memory configured to store conversion characteristic definition data

(column 2, lines 11-13) for defining gamma conversion characteristics of image data for

each attribute of said image data (column 3, lines 35-40); a processor array comprising

a plurality of processing elements, each of said plurality of processing elements

including: an input data register configured to store image data to be conversion

processed (column 2, lines 21-23), a plurality of character registers each configured to

store gamma conversion characteristic definition data read out from said data memory

(column 3, lines 35-40), an attribute register configured to store attribute data describing image characteristics based on said image data (column 9, lines 8-17), an output data register configured to store processed data acquired by conversion processing (column 9, lines 22-31), and a calculator configured to generate and to subsequently store in said attribute register attribute data of image data stored in said input data register according to image data stored in said input data register and according to image data assigned to picture elements in a vicinity of noteworthy image data, and to perform conversion processing on said data to be conversion processed according to gamma conversion characteristic definition data stored in said plurality of character registers (column 10, lines 31-53); a global register configured to store attribute detection control data for controlling generation of said attribute data in said calculator and of conversion control data for controlling said gamma conversion in said calculator (column 10, lines 31-53); a processor configured to control at least one of: writing image data on one raster into said input data register included in each of said plurality of processing elements, writing said attribute detection control data and said conversion control data into said global register, imparting an operation instruction set to said calculator based on said attribute detection control data, sending out said conversion characteristic definition data corresponding to each attribute data stored in said data memory to said character registers, imparting an operation instruction set to said calculator (column 10, lines 42-45) based on said conversion control data, and outputting conversion processed data from said output data register; and a program memory configured to

store a conversion program set for said processor to perform said control (column 10, lines 31-53).

With regard to claim 11, Yanaka discloses wherein said processor is configured to: control sequentially sending out characteristic definition data corresponding to said attribute data from said data memory to said plurality of character registers based on said data written into said input data register (column 10, lines 31-53); impart an operation instruction set to said calculator based on conversion control data (column 10, lines 31-53); and output conversion processed data written into said output register by said calculator, wherein said calculator (column 10, lines 42-45) is configured, when said processor is sending out characteristic definition data corresponding to attribute data stored in said attribute register from said data memory, to: load said conversion characteristic definition data into said plurality of character registers; and perform conversion processing according to said operation instruction set using said conversion characteristic definition data loaded in said plurality of character registers (column 10, lines 31-53).

With regard to claim 12, Yanaka discloses wherein: said conversion characteristic definition data corresponding to attribute data include input data obtained at a position in a divided segment, said divided segment being formed by dividing a conversion data input range into multiple segments, into processed data obtained by performing conversion processing on said input data, and into conversion parameters for each of said multiple segments, said processor is configured, when sending out conversion characteristic definition data corresponding to said attribute data, to control

sending out segmented position input image data assigned to said attribute data,

processed data obtained by performing conversion processing on said segmented

position input image data, and process parameters, sequentially in an order of said

divided segment from said data memory to said plurality of character registers (column

2, lines 15-23 and lines 50-55); and said calculator is configured, when said processor

is sending out characteristic definition data corresponding to attribute data stored in said

attribute register from said data memory, to: load said segmented position input image

data assigned to a segment corresponding to said data written into said input data

register among said conversion characteristic definition data corresponding to attribute

data stored in said attribute register, processed data obtained by performing conversion

processing on said segmented position input image data, and process parameters into

said plurality of character registers; and perform data processing according to said

operation instruction set on said data written into said input data register using said

segmented position input image stored in said character registers, said processed data

obtained by processing said segmented position input image data, and said process

parameters (column 10, lines 31-45).

With regard to claim 13, Yanaka discloses an image data processing apparatus,

comprising: a data memory configured to store conversion characteristic definition data

(column 2, lines 11-13) for defining gamma conversion characteristics of image data for

each attribute of said image data (column 3, lines 35-40); a global register configured to

store an attribute detection control program for controlling generation of attribute data

describing image characteristics of said image data and a conversion control program

for controlling gamma conversion on said image data (column 10, lines 31-53); a

processor array comprising a plurality of processing elements, each of said plurality of

processing elements including: an input data register configured to store image data to

be conversion processed (column 2, lines 21-23), a plurality of character registers each

configured to store conversion characteristic definition data (column 3, lines 35-40), an

attribute register configured to store attribute data of said image data to be conversion

processed, an output data register configured to store processed data acquired by

conversion processing, and a calculator configured to: generate and subsequently store

in said attribute register attribute data of image data stored in said input data register

according to an operation instruction set to said calculator based on attribute detection

control data stored in said global register, image data stored in said input data register,

and image data assigned to picture elements in a vicinity of noteworthy image data,

select and subsequently store in said attribute register conversion characteristic

definition data assigned to attribute data stored in said character registers among

conversion characteristic definition data corresponding to attribute data stored in said

data memory (column 10, lines 31-53), and perform gamma conversion processing on

said data to be conversion processed stored in said input data register according to a

conversion operation instruction set based on said conversion control program stored in

said global register and conversion characteristic definition data stored in said character

registers (column 3, lines 35-40); a global processor configured to control at least one

of: writing an image data stream into said input data register included in each of said

plurality of processing elements, imparting an operation instruction set based on an

attribute detection control program set stored in said global register to each calculator in said plurality of processing elements in common, sending out said conversion characteristic definition data corresponding to each attribute data stored in said data memory to said character registers, imparting a further operation instruction set based on a conversion control program stored in said global register to each calculator in said plurality of processing elements in common, and outputting conversion processed data from said output data register; and a program memory configured to store a global control program set for said global processor to perform said control (column 10, lines 31-53).

With regard to claim 14, Yanaka discloses an image processing apparatus, comprising: an imaging apparatus configured to generate pictorial image data representing a pictorial image (column 3, lines 35-40); and the image data processing apparatus according to claim 1 configured to perform picture gamma conversion of said pictorial image data for correcting image distortion caused during imaging (column 3, lines 35-40).

With regard to claim 15, Yanaka discloses further comprising: a parallel bus configured to transfer said pictorial image data (see data bus in figure 1); a pictorial image memory; a pictorial image memory control apparatus configured to write said pictorial image data on said parallel bus to be stored in said pictorial image memory, and to read out said pictorial image data stored in said pictorial image memory to be sent to said parallel bus (column 2, lines 21-30); and a pictorial image data control apparatus configured to control an exchange of said pictorial image data among said

imaging apparatus, said image data processing apparatus, and said parallel bus (column 6, lines 43-59).

With regard to claim 16, Yanaka discloses wherein said pictorial image data control apparatus is configured to control selecting at least one of: performing inelastic compression on said pictorial image data formed by said imaging apparatus to be output subsequently to said parallel bus, transforming said pictorial image data to said image data processing apparatus for processed pictorial image data to be performed with inelastic compression and subsequently output to said parallel bus, and decompressing said pictorial image data on said parallel bus to be transferred subsequently to said image data processing apparatus (column 3, lines 18-41).

With regard to claim 17, Yanaka discloses an image forming apparatus, comprising: a printer configured to form a pictorial image represented by pictorial image data on a sheet (column 2, lines 8-13); and an image data processing apparatus as recited in claim 1 configured to perform printer gamma conversion of said pictorial image data for forming image data suitably adapted to image formation by said printer (column 3, lines 35-40).

With regard to claim 18, Yanaka discloses further comprising: a parallel bus configured to transfer said pictorial image data (see data bus in figure 1); a pictorial image memory; a pictorial image memory control apparatus configured to write said pictorial image data on said parallel bus to be stored in said pictorial image memory, and to read out said pictorial image data stored in said pictorial image memory to be sent to said parallel bus (column 2, lines 21-30); and a pictorial image data control

apparatus configured to control an exchange of said pictorial image data between said image data processing apparatus and said parallel bus (column 6, lines 43-59).

With regard to claim 19, Yanaka discloses wherein said pictorial image data control apparatus is configured to perform at least one of: compressing said pictorial image data to be subsequently written into said image memory, and reading out said pictorial image data from said image memory to subsequently be decompressed, said pictorial image data being transferred between external units including at least one of a computer, local area network (LAN), a facsimile connected to said parallel bus, and said pictorial image data control apparatus (column 3, lines 18-41).

With regard to claim 20, Yanaka discloses An image forming apparatus, comprising: an imaging apparatus configured to generate pictorial image data representing a pictorial image(column 3, lines 35-40); and an image data processing apparatus as recited in claim 1 configured to perform data conversion of said pictorial image data for forming images to form images on a sheet by a printer, said printer being configured to form a pictorial image on said sheet (column 3, lines 35-40).

With regard to claim 21, Yanaka discloses further comprising: a parallel bus configured to transfer said pictorial image data (see data bus in figure 1); a pictorial image memory; a pictorial image memory control apparatus configured to write said pictorial image data on said parallel bus to be stored in said pictorial image memory (column 2, lines 21-30, and to read out said pictorial image data stored in said pictorial image memory to be sent to said parallel bus; and a pictorial image data control apparatus configured to control an exchange of said pictorial image data among said

imaging apparatus, said image data processing apparatus, and said parallel bus

(column 6, lines 43-59).

With regard to claim 22, Yanaka discloses wherein said pictorial image data

control apparatus is configured to perform at least one of: compressing said pictorial

image data to be subsequently written into said image memory; and reading out said

pictorial image data from said image memory to subsequently be decompressed, said

pictorial image data being transferred between external units, including at least one of a

computer, a local area network (LAN), a facsimile connected to said parallel bus, and

said pictorial image data control apparatus (column 3, lines 18-41).

With regard to claim 23, Yanaka discloses a data processing apparatus,

comprising: first means for storing characteristic definition data defined for each data

attribute (column 2, lines 9-14); first means for selecting a set of characteristic definition

data from said characteristic definition data stored in said first means for storing

corresponding to each data and each data attribute out of a data stream to be

processed, and for processing said data according to said group of characteristic

definition data (column 2, 24-30); and second means for storing process control data for

controlling said processing of said each data, for imparting an operation instruction set

based on said process control data to said first means for selecting in common, for

imparting each of said data stream to each of said means for selecting, for sending out

said characteristic definition data stored in said first means for storing corresponding to

said each attribute data stored in said first means for storing for each of first said means

for selecting, and for outputting processed data from said first means for selecting (column 2, lines 24-55).

With regard to claim 24, Yanaka discloses wherein said first means for selecting includes: third means for storing and for imparting said process control data for controlling said processing of said data to said first means for selecting in common, and means for controlling at least one of: writing said process control data into said third means for storing, imparting each of said data stream to said first means for selecting, sending out said characteristic definition data stored in said first means for storing corresponding to each data attribute stored in said first means for storing to said first means for selecting, imparting an operation instruction set based on said process control data to said first means for selecting in common, and outputting processed data from said first means for selecting (column 2, lines 50-55).

With regard to claim 25, Yanaka discloses further comprising: fourth means for storing a process program set for said means for controlling to perform said control (column 2, lines 50-55).

With regard to claim 26, Yanaka discloses wherein said first means for selecting includes: fifth means for storing data to be processed (column 2, lines 21-23); sixth means for storing said characteristic definition data (column 2, lines 25-30); seventh means for storing processed data acquired by processing (column 9, lines 22-31); eighth means for storing attribute data for said data to be processed (column 9, lines 8-17); and second means for selecting characteristic definition data and for storing said selected characteristic definition data in said sixth means for storing, said characteristic

definition data being assigned to an attribute data stored in said eighth means for

storing among characteristic definition data corresponding to given attribute data, and

for processing said data to be stored in said fifth means for storing according to an

operation instruction set imparted by said means for controlling based on said process

control data and characteristic definition data stored in said fifth means for storing

(column 10, lines 31-45).

With regard to claim 27, Yanaka discloses wherein said means for controlling

controls at least one of: writing a data stream to be processed into said fifth means for

storing included in said first means for selecting, sending out said characteristic

definition data stored in said first means for storing corresponding to each attribute data

to said sixth means for storing, writing said process control data into said third means

for storing, and outputting processed data from said seventh means for storing (column

10, lines 31-53).

With regard to claim 28, Yanaka discloses wherein said means for controlling

controls at least one of: sequentially sending out characteristic definition data

corresponding to each attribute data from said first means for storing to said sixth

means for storing based on said data written into said fifth means for storing, imparting

an operation instruction set to said second means for selecting based on process

control data, and outputting conversion processed data written into said seventh means

for storing by said second means for selecting; and said second means for selecting,

when said means for controlling is sending out characteristic definition data

corresponding to attribute data stored in said eighth means for storing from said first

means for storing, loads said characteristic definition data into said sixth means for

storing, and performs image data processing according to said operation instruction set

using said characteristic definition data loaded in said sixth means for storing (column

10, lines 31-53).

With regard to claim 29, Yanaka discloses wherein: said characteristic definition

data corresponding to attribute data include input data obtained at a position in a

divided segment, said divided segment being formed by dividing a data input range into

multiple segments, processed data obtained by processing said input data, and process

parameters for each of said multiple segments (column 10, lines 31-45); said means for

controlling controls, when sending out characteristic definition data corresponding to

each attribute data, sending out segmented position input image data assigned to said

attribute data, processed data obtained by processing said segmented position input

image data, and process parameters, sequentially in an order of said divided segment

to said sixth means for storing from said first means for storing (column 2, lines 15-23

and lines 50-55); and said second means for selecting, when said means for controlling

is sending out from said first means for storing: loads said segmented position input

image data assigned to a segment corresponding to said data written into said fifth

means for storing among said characteristic definition data corresponding to attribute

data stored in said eighth means for storing, processed data obtained by processing

said segmented position input image data, and process parameters, into said sixth

means for storing; and performs data processing according to said operation instruction

set on said data written into said fifth means for storing using said segmented position

input image stored in said sixth means for storing, said processed data obtained by

processing said segmented position input image data, and said process parameters

(column 10, lines 31-45).

With regard to claim 30, Yanaka discloses wherein: said data to be processed

include image data; said third means for storing stores attribute detection control data

used for controlling data processing for generating attribute data of said image data by

first means for selecting, and imparts an operation instruction set in common to said first

means for selecting; and said second means for selecting generates, and subsequently

stores in said eighth means for storing attribute data of image data stored in said fifth

means for storing according to said operation instruction set, image data stored in said

fifth means for storing, and image data assigned to picture elements in a vicinity of

noteworthy image data (column 10, lines 31-53).

With regard to claim 31, Yanaka discloses a data processing apparatus,

comprising: first means for storing characteristic definition data for defining

characteristics of data processing for attribute data (column 2, lines 9-14); second

means for storing for storing a conversion program set (column 2, lines 50-55); means

for processing, including: third means for storing data to be conversion processed

(column 2, lines 21-23), fourth means for storing conversion characteristic definition

data (column 2, lines 25-30), sixth means for storing attribute data for said data to be

conversion processed (column 9, lines 8-17), fifth means for storing processed data

acquired by conversion processing (column 9, lines 22-31, and first means for selecting

a set of conversion characteristic definition data to be subsequently stored in said fourth

means for storing, said conversion characteristic definition data being assigned to

attribute data stored in said fourth means for storing among conversion characteristic

definition data corresponding to attribute data stored in said fourth means for storing,

and for performing conversion processing on said data to be conversion processed

stored in said third means for storing according to a conversion operation instruction set

based on said conversion control program and to conversion characteristic definition

data stored in said fourth means for storing (column 10, lines 31-45); means for

controlling writing a data stream to be conversion processed into said third means for

storing included in said means for processing, for sending out said conversion

characteristic definition data stored in said first means for storing corresponding to said

attribute data to said fourth means for storing, imparting an operation instruction set

based on said conversion process control program stored in said second means for

storing to said first means for selecting in common, and outputting processed data from

each of said third means for storing; and seventh means for storing a process program

set for said means for controlling to perform said control (column 10, lines 31-53.

With regard to claim 32, Yanaka discloses an image data processing apparatus,

comprising: first means for storing conversion characteristic definition data for defining

gamma conversion characteristics of image data for each attribute of said image data

(column 3, lines 35-40); means for processing, including: second means for storing

image data to be conversion processed (column 2, lines 21-23), third means for storing

gamma conversion characteristic definition data read out from said first means for

storing (column 3, lines 35-40), fourth means for storing attribute data describing image

characteristics revealed by said image data (column 9, lines 8-17), fifth means for

storing processed data acquired by conversion processing (column 9, lines 22-31), and

means for generating and for subsequently storing in said fourth means for storing

attribute data of image data stored in said second means for storing according to image

data stored in said second means for storing and according to image data assigned to

picture elements in a vicinity of noteworthy image data, and for conversion processing

said data to be conversion processed stored in said second means for storing according

to gamma conversion characteristic definition data stored in said third means for storing

(column 10, lines 31-53); sixth means for storing attribute detection control data for

controlling generation of said attribute data in said means for generating and for storing

conversion control data for controlling said gamma conversion in said means for

generating (column 10, lines 31-53); means for controlling at least one of: writing image

data on one raster into said second means for storing; writing said attribute detection

control data and said conversion control data into said sixth means for storing, imparting

an operation instruction set to said means for generating based on said attribute

detection control data, sending out said conversion characteristic definition data

corresponding to each attribute data stored in said first means for storing to said third

means for storing, imparting an operation instruction set to said means for generating

based on said conversion control data, and outputting conversion processed data from

said fifth means for storing; and seventh means for storing a conversion program set for

said means for controlling to perform said control (column 10, lines 31-53).

With regard to claim 33, Yanaka discloses wherein said means for controlling controls at least one of: sending out sequentially characteristic definition data corresponding to each attribute data from said first means for storing to said third means for storing based on said data written into said second means for storing (column 10, lines 31-53), imparting an operation instruction set to said means for generating based on conversion control data (column 10, lines 31-53), and outputting conversion processed data written into said fifth means for storing by said means for generating, wherein said means for generating, when said means for controlling is sending out characteristic definition data corresponding to attribute data stored in said fourth means for storing from said first means for storing, loads said conversion characteristic definition data into said third means for storing and performs conversion processing according to said operation instruction set using said conversion characteristic definition data loaded in said third means for storing (column 10, lines 31-53).

With regard to claim 34, Yanaka discloses wherein: said conversion characteristic definition data corresponding to attribute data include input data obtained at a position in a divided segment, said divided segment being formed by dividing a conversion data input range into multiple segments, into processed data obtained by performing conversion processing on said input data, and into conversion parameters for each of said multiple segments; said means for controlling controls, when sending out conversion characteristic definition data corresponding to each attribute data, sending out segmented position input image data assigned to said attribute data,

processed data obtained by performing conversion processing on said segmented

position input image data, and process parameters, sequentially in an order of said

divided segment from said first means for storing to said third means for storing (column

2, lines 15-23 and lines 50-55), and wherein said means for generating, when said

means for controlling is sending out from said first means for storing: loads said

segmented position input image data assigned to a segment corresponding to said data

written into said second means for storing among said conversion characteristic

definition data corresponding to attribute data stored in said fourth means for storing,

processed data obtained by performing conversion processing on said segmented

position input image data, and process parameters, into said third means for storing;

and performs data processing according to said operation instruction set on said data

written into said second means for storing using said segmented position input image

stored in said third means for storing, said processed data obtained by processing said

segmented position input image data, and said process parameters (column 10, lines

31-45).

With regard to claim 35, Yanaka discloses an image data processing apparatus,

comprising: first means for storing conversion characteristic definition data for defining

gamma conversion characteristics of image data for each attribute of said image data

(column 3, lines 35-40); second means for storing an attribute detection control program

for controlling a generation of attribute data describing image characteristics related to

said image data and a conversion control program for controlling gamma conversion on

said image data (column 10, lines 31-53); means for processing, including: third means

for storing image data to be conversion processed (column 2, lines 21-23), fourth

means for storing conversion characteristic definition data (column 3, lines 35-40), fifth

means for storing attribute data of said image data to be conversion processed, sixth

means for storing processed data acquired by conversion processing, and means for

generating and for subsequently storing in said fifth means for storing, attribute data of

image data stored in said third means for storing according to an operation instruction

set to said for generating based on attribute detection control data stored in said second

means for storing, image data stored in said third means for storing, and image data

assigned to picture elements in a vicinity of noteworthy image data, for selecting and for

subsequently storing in said fifth means for storing conversion characteristic definition

data assigned to attribute data stored in said fourth means for storing among conversion

characteristic definition data corresponding to attribute data stored in said first means

for storing (column 10, lines 31-53), and for performing gamma conversion processing

on said data to be conversion processed stored in said third means for storing

according to a conversion operation instruction set based on said conversion control

program stored in said second means for storing and conversion characteristic definition

data stored in said fourth means for storing (column 3, lines 35-40); means for

controlling at least one of: writing an image data stream into said third means for

storing, imparting an operation instruction set based on an attribute detection control

program set stored in said second means for storing to each calculator in common,

sending out said conversion characteristic definition data corresponding to each

attribute data stored in said first means for storing to said fourth means for storing,

imparting a further operation instruction set based on said conversion control program

stored in said second means for storing to each calculator in common, and outputting

conversion processed data from said sixth means for storing; and eighth means for

storing a global control program set for said means for controlling to perform said

control (column 10, lines 31-53).

With regard to claim 36, Yanaka discloses an image processing apparatus,

comprising: an imaging apparatus configured generate pictorial image data representing

a pictorial image (column 3, lines 35-40); and the image data processing apparatus

recited in claim 1, configured to perform picture gamma conversion of said pictorial

image data for correcting image distortion caused during imaging (column 3, lines 35-

40).

With regard to claim 37, Yanaka discloses further comprising: a parallel bus

configured to transfer said pictorial image data (see data bus in figure 1); a pictorial

image memory; a pictorial image memory control apparatus configured to write said

pictorial image data on said parallel bus to be stored in said pictorial image memory,

and to read out said pictorial image data stored in said pictorial image memory to be

sent to said parallel bus (column 2, lines 21-30); and a pictorial image data control

apparatus configured to control an exchange of said pictorial image data among said

imaging apparatus, said image data processing apparatus, and said parallel bus

(column 6, lines 43-59).

With regard to claim 38, Yanaka discloses wherein said pictorial image data

control apparatus is configured to control at least one of: performing inelastic

compression on said pictorial image data formed by said imaging apparatus to be

output subsequently to said parallel bus, transferring said pictorial image data to said

image data processing apparatus to process said pictorial image data with inelastic

compression and to subsequently output said pictorial image data to said parallel bus,

and decompressing said pictorial image data on said parallel bus to subsequently

transfer said pictorial image data to said image data processing apparatus (column 3,

lines 18-41).

With regard to claim 39, Yanaka discloses comprising: a printer configured to

form a pictorial image represented by pictorial image data on a sheet (column 2, lines 8-

13); and the image data processing apparatus recited in claim 1 configured to perform

printer gamma conversion of said pictorial image data for forming image data for use in

record outputting adapted to image formation by said printer (column 3, lines 35-40).

With regard to claim 40, Yanaka discloses further comprising: a parallel bus for

transferring said pictorial image data (see data bus in figure 1); a pictorial image

memory; a pictorial image memory control apparatus configured to write said pictorial

image data on said parallel bus to be stored in said pictorial image memory and to read

out said pictorial image data stored in said pictorial image memory to be sent to said

parallel bus (column 2, lines 21-30); and a pictorial image data control apparatus

configured to control an exchange of said pictorial image data between said image data

processing apparatus and said parallel bus (column 6, lines 43-59).

With regard to claim 41, Yanaka discloses wherein said pictorial image data

control apparatus includes the image data processing apparatus recited in claim 17,

configured to perform at least one of: compressing said pictorial image data to be subsequently written into said image memory, and reading out said pictorial image data from said image memory to subsequently be decompressed, said pictorial image data being transferred between external units, including at least one of a computer, a local area network (LAN), a facsimile connected to said parallel bus, and said pictorial image data control apparatus (column 3, lines 18-41).

With regard to claim 42, Yanaka discloses an image forming apparatus, comprising: an imaging apparatus configured to generate pictorial image data representing a pictorial image; and the image data processing apparatus recited in claim 1 configured to perform data conversion of said pictorial image data for forming images for use in record outputting to form images on a sheet by a printer, said printer being configured to form a pictorial image represented by said images on said sheet (column 3, lines 35-40).

With regard to claim 43, Yanaka discloses further comprising: a parallel bus configured to transfer said pictorial image data (see data bus in figure 1); a pictorial image memory; a pictorial image memory control apparatus configured to write said pictorial image data on said parallel bus to be stored in said pictorial image memory (column 2, lines 21-30), and to read out said pictorial image data stored in said pictorial image memory to be sent to said parallel bus; and a pictorial image data control apparatus configured to control an exchange of said pictorial image data among said imaging apparatus, said image data processing apparatus, and said parallel bus (column 6, lines 43-59).

With regard to claim 44, Yanaka discloses wherein said pictorial image data control apparatus includes the image data processing apparatus recited in claim 19, configured to perform at least one of: compressing said pictorial image data to be subsequently written into said image memory, and reading out said pictorial image data from said image memory to subsequently be decompressed, said pictorial image data being transferred between external units, including at least one of a computer, a local area network (LAN), a facsimile connected to said parallel bus, and said pictorial image data control apparatus (column 3, lines 18-41).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Vo whose telephone number is 5712701121. The examiner can normally be reached on 7:30AM-5:00PM Monday-Friday.
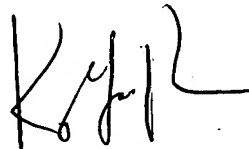
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler M. Lamb can be reached on 5712727406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Quang N. Vo   6/4/07
Patent Examiner

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